To: binetti, victoria[binetti.victoria@epa.gov]; Wisniewski, Patti-Kay[Wisniewski.Patti-

Kay@epa.gov]; Caporale, Cynthia[Caporale.Cynthia@epa.gov]; Warner, Sue[Warner.Sue@epa.gov]; Caporage, Philip@epa.gov]

Campagna, Philip[Campagna.Philip@epa.gov]

Cc: Werner, Lora[Werner.Lora@epa.gov]; Casillas, Laura[Casillas.Laura@epa.gov]; Matlock,

Dennis[Matlock.Dennis@epa.gov]; Markiewicz, Karl[Markiewicz.Karl@epa.gov]; Linden,

melissa[linden.melissa@epa.gov]; Larry Cseh[LCseh@cdc.gov]; Mickunas,

Dave[Mickunas.Dave@epa.gov]

From: Kelly, Jack (R3 Phila.)

Sent: Sun 1/12/2014 5:11:56 PM

Subject: Re: Eastman Crude MCHM - 4-methylcyclohexanemethanol

Ok. You folks see what you can do. You may have more luck given your program. American Water probably wonders what an OSC is.

Mentioning CDC, ATSDR in my message hopefully got some attention....but who knows. Sounds like DuPont is a major player and they were responsive.

From: binetti, victoria

Sent: Sunday, January 12, 2014 12:07:24 PM

To: Wisniewski, Patti-Kay; Kelly, Jack (R3 Phila.); Caporale, Cynthia; Warner, Sue; Campagna, Philip Co: Werner, Lora; Casillas, Laura; Matlock, Dennis; Markiewicz, Karl; Linden, melissa; Larry Cseh;

Mickunas, Dave

Subject: RE: Eastman Crude MCHM - 4-methylcyclohexanemethanol

I have a call in to American Water, waiting for reply.--Vicky

----Original Message-----

From: Wisniewski, Patti-Kay

Sent: Sunday, January 12, 2014 12:06 PM

To: Kelly, Jack (R3 Phila.); Caporale, Cynthia; Warner, Sue; Campagna, Philip; binetti, victoria Co: Werner, Lora; Casillas, Laura; Matlock, Dennis; Markiewicz, Karl; Linden, melissa; Larry Cseh; Mickunas. Dave

Subject: RE: Eastman Crude MCHM - 4-methylcyclohexanemethanol

Jack

How about if WPD determines method in use by WVAW first. They have not asked for EPA support specifically. Sounds as thought Civil Support is using the DuPont method and not the Eastman method, but who knows.

Vicky stated she would contact American, so perhaps she can find an answer first.

## Patti Kay

From: Kelly, Jack (R3 Phila.)

Sent: Sunday, January 12, 2014 11:59 AM

To: Caporale, Cynthia; Warner, Sue; Campagna, Philip; Wisniewski, Patti-Kay; binetti, victoria Cc: Werner, Lora; Casillas, Laura; Matlock, Dennis; Markiewicz, Karl; Linden, melissa; Larry Cseh; Mickunas, Dave

Subject: Fw: Eastman Crude MCHM - 4-methylcvclohexanemethanol

Karl heard back from Dupont. This looks promising. Maybe we should try to get him on a call with the American Water guy(s).

From: Markiewicz, Karl

Sent: Sunday, January 12, 2014 10:35:43 AM

To: Kelly, Jack (R3 Phila.)

Subject: Fw: Eastman Crude MCHM - 4-methylcyclonexanemethanol
FYI
From: Markiewicz, Karl Sent: Sunday, January 12, 2014 10:02:49 AM To: Mickunas, Dave Cc: Ikw9@cdc.gov; Ex.6-Personal Privacy Subject: Fw: Eastman Crude MCHM - 4-methylcyclohexanemethanol
Hello Dave,
Here's the latest email from Dupont). I've copied him on the email so you 2 can start communications.
Sincerely,
Karl
From: Ex. 6 - Personal Privacy Sent: Sunday, January 12, 2014 9:44:42 AM To: Markiewicz, Karl Subject: RE: Eastman Crude MCHM - 4-methylcyclohexanemethanol
Hi Karl,
I haven't had time to do an official MDL study, but component peaks have about a 2:1 s/n at the 0.01 ppm level, and matrix spikes and duplicates all look real good. To give ourselves a little leeway however, I have set our reporting limit as 0.1 ppm.
Levels in the feed to the water company plant are down at that level. The water exiting the plant is still between 0.5 and 1 ppm. It's hard to explain to some folks how activated carbon equilibria works. We're getting there.
E. 6 - Personal Provo
From: Markiewicz, Karl [mailto:Markiewicz.Karl@epa.gov] Sent: Sunday, January 12, 2014 7:08 AM To: Ex. 6 - Personal Privacy Cc: Ikw9@cdc.gov Subject: Re: Eastman Crude MCHM - 4-methylcyclohexanemethanol
Thabks [Ex. 5 - Personal Privacy]
Not problem - I know how hectic these responses are. I've seen emails indicating that the DL for MCHM is 10 ppb.
You guys are doing a great job and we appreciate all the support and effort.
Sincerely,

#### Karl

From Ex. 6 - Personal Privacy	į,
Ex. 6 - Personal Privacy	!
Ex. 0 - reisoliai riivacy	

Sent: Sunday, January 12, 2014 3:31:01 AM

To: Markiewicz, Karl

Cc: lkw9@cdc.gov<mailto:lkw9@cdc.gov>

Subject: RE: Eastman Crude MCHM - 4-methylcyclohexanemethanol

Hello Karl,

I started this reply once before and got pulled away. At this point I have had little time for anything other than monitoring of the primary component 4-methylcyclohexanemethanol. Besides setting up additional GC's in my lab, preparing standards for contract lab evaluation, preparing odor profile standards for multiple groups, and trying to keep up with the ever increasing sample load, I have also been assisting three National Guard Mobile units in setting up the analysis on their equipment (with limited success).

Some air monitoring samples on activated charcoal would have been nice to look at. Reports coming to me as my lab techs rotate in and out, are that recent rains have almost completely eliminated the odor downtown. A lost opportunity to study some dispersion patterns???

Ex. 6 - Personal Privacy (another chemist at the site) and I have had much the same suspicion as to the various odors.

Maybe once the dust settles I can go back and rehash the data.

### Ex. 6 - Personal Privacy

Sr. Chemist

**Dupont Chemicals and Fluoroproducts** 

Dupont Belle Plant 901 W Dupont Ave. Belle, WV 25015

# Ex. 6 - Personal Privacy

From: Markiewicz, Karl [mailto:Markiewicz.Karl@epa.gov]

Sent: Friday January 10, 2014 2:42 PM

To: Ex. 6 - Personal Privacy

Cc: lkw9@cdc.gov<mailto:lkw9@cdc.gov>

Subject: Eastman Crude MCHM - 4-methylcyclohexanemethanol

Hello Ex. 6 - Personal Privacy

I'm a toxicologist with CDC/ATSDR and involved with the WV spill response. I was given your email from a member of the response team within EPA.

I understand that you've developed the analytical standard and methods for 4-methylcyclohexanemethanol and maybe for all the components of the mixture. Can you provide detection limits for 4-methylcyclohexanemethanol and others if available?

We believe the licorice odor is related to the 4-(MethoxyMethyl) cyclohexaneMethanol( 98955-27-2) in the mixture. Its my understanding that as time has progressed the licorice odor has diminished and a sweet (alcohol?) odor is now detectable. Do you think the ether has dissipated and now the alcohols are predominated the odor profile?

#### Eastman Crude MCHM

Weight %	Component	CAS Registry No.
68 . 89%	4-methylcyclohexanemethanol	34885-03-5
4 – 22%	4-(methoxymethyl)cyclohexanemethanol	98955-27-2
4 – 10%	water	7732-18-5
5%	methyl4-methylcyclohexanecarboxylate	51181-40-9
1%	dimethyl I,4-cyclohexanedicarboxylate	94-60-0
1%	methanol	67-56-1
1-2%	I,4-cyclohexanedimethanol	105-08-8

Sincerely,

Karl

Karl V. Markiewicz PhD
Senior Toxicologist
DHHS/CDC/ATSDR
MailStop: 3HS00
1650 Arch Street
Philadelphia, PA 19103
215-814-3149 (office)
kvm4@cdc.gov<mailto:kvm4@cdc.gov>

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